

NORTHERN N.M. PLANT CONSERVATION PROGRAM 2011 FARMINGTON DISTRICT OFFICE

“Happiness held is the seed; happiness
shared is the flower”



Photo by Sheila Williams

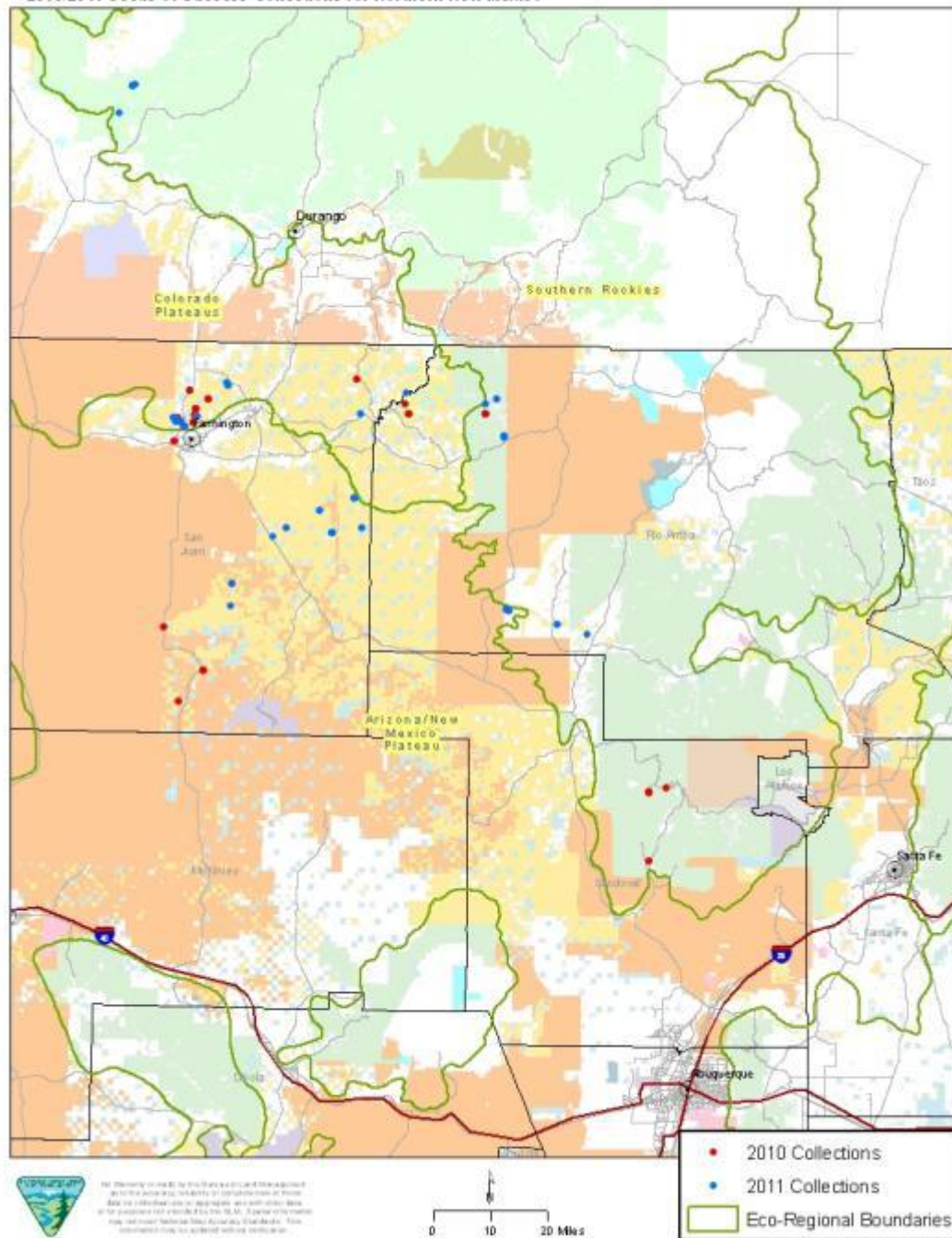
SEEDS OF SUCCESS 2011 FIELD SEASON-NM930N

- Twenty six (26) species representing twenty eight (28) collections were made in 2011. All but two collections were sent to the Bend Seed Extractory destined for permanent storage at the National Seed Repository in Pullman Washington.

Focus for the 2011 season collections:
the southern end of the Colorado Plateau
(based on Omernick Level III Ecoregions
Colorado Plateau, Arizona/New Mexico
Plateau, and Southern Rockies Ecoregions).

- Target list developed with:
 - SOS species by ecoregion
 - More Focused on CPNPI Priority List
 - Field Office input
 - Workhorse and pioneer species
 - Open season!

2010/2011 Seeds of Success Collections for Northern New Mexico



Moderate late winter snowfall and minimal spring rains characterized the beginning of the 2011 collection season in the Four Corners area.

Initial green-up in the spring. Forbs and flowers were much reduced from the prior collecting season.

Native shrubs did well in some locations. Successfully made a collection of Antelope bitterbrush (*Purshia tridentata* which produces fruit infrequently).

Typical summer monsoons did not occur in the Four Corners area. Drought prevailed throughout much of New Mexico.

Late rains fell in fall. Warm season grasses responded, and a few forbs.





Collections were made by Chicago Botanic Interns Jamie Berlin and Anthony Wenkea; with assistance from Sheila Williams (BLM botanist). Esther Willetto, Navajo Coordinator, Patrick Parks, GIS Specialist, and Kris Laman, STEP Student for FFO provided field support and assisted with some collecting.

NM930N SEEDS OF SUCCESS 2011 COLLECTIONS

- ◉ *Lupinus brevicaulis*
- ◉ NM930N-41
- ◉ *Achnatherum hymenoides*
- ◉ NM930N-42
- ◉ *Hesperostipa neomexicana*
- ◉ NM930N-43
- ◉ *Populus deltoides* ssp. *wislizenii*
- ◉ NM930N-44, NM930N 46
- ◉ *Tetraneuris ivesiana*
- ◉ NM930N-45
- ◉ *Hesperostipa comata*
- ◉ NM930N-47
- ◉ *Purshia tridentata*
- ◉ NM930N-48
- ◉ *Astragalus lonchocarpus*
- ◉ NM930N-49, NM930N-50
- ◉ *Hordeum jubatum*
- ◉ NM930N-51
- ◉ *Penstemon angustifolius* ssp. *caudatus*
- ◉ NM930N-52
- ◉ *Erysimum asperum*
- ◉ NM930N-53
- ◉ *Potentilla hippiana*
- ◉ NM930N-54
- ◉ *Eriogonum umbellatum* var. *subaridum*
- ◉ NM930N-55
- ◉ *Orthocarpus luteus*
- ◉ NM930N-56
- ◉ *Grindelia fastigiata*
- ◉ NM930N-57
- ◉ *Lupinus caudatus* ssp. *caudatus*
- ◉ NM930N-58
- ◉ *Ipomopsis longiflora*
- ◉ NM930N-59
- ◉ *Sporobolus airoides*
- ◉ NM930N-60
- ◉ *Sporobolus cryptandrus*
- ◉ NM930N-61

NM930N 2011 SEASON CONT.

- ◉ *Machaeranthera canescens*
- ◉ NM930N-62
- ◉ *Sporobolus giganteus*
- ◉ NM930N-63
- ◉ *Eriogonum cernuum*
- ◉ NM930N-64
- ◉ *Bouteloua gracilis*
- ◉ NM930N-65
- ◉ *Artemisia frigida*
- ◉ NM930N-66
- ◉ *Artemisia filifolia*
- ◉ NM930N-67
- ◉ *Muhlenbergia pungens*
- ◉ NM930N-68



Lupinus brevicaulis
Shortstem lupine



05/17/2011 14:44



07/21/2011 16:07





09/21/2011 12:45



High elevation collection site (SJNF). Note lupines (*Lupinus caudatus*) in the forefront. CBG interns were challenged by the first collection (*L. brevicaulis*). Tested different method here. Utilized small cloth bags (small sized soil sample bags) and tied them on immature fruits. We were able to increase seeds collected using this method.



10/12/2011 14:12



10/12/2011 14:11



09/13/2011 15:00



09/13/2011 15:00



A legume with potential in restoration rushy milkvetch (*Astragalus lonchocarpus*)-the CPNPI Technical Committee reviewed this species and has added this to priority list. It is an attractive tall species; fruits produced at the top and holds on to its seed. It is relished by wildlife (mild toxicity-*not* a selenium accumulator).



*Muhlenbergia
asperifolia* or Alkali
muhly.

Potential restoration
species for riparian
areas after salt cedar
mortality from salt
cedar beetles.



Salt cedar defoliation in Farmington FO

PLANT MATERIALS AND RESEARCH



Two collections were made of seed for Rio Grande cottonwood (*Populus deltoides ssp. wislizenii*) and sent directly to Los Lunas Plant Materials Center for riparian restoration for northern N.M.



06/20/2011 12:12

Los Lunas Plant Materials Center also has several species that are in varying stages of development for BLM.

Prairie coneflower (*Ratibida columnifera*) which is doing well in cultivation. The field will be expanded in 2012.

Pale evening primrose (*Oenothera pallida*) and small flowered globemallow (*Sphaeralcea parvifolia*). Both doing well. We will be adding accessions from other locations on the Colorado Plateau and enlarging production fields.

Continue growing scarlet gilia (*Ipomopsis aggregata*) utilizing different methods. The initial plants set out experienced root rot.

For the near future: develop a release of Jame's galleta (*Pleuraphis jamesii*) for the Colorado Plateau. We need multiple accessions for testing!

Collect and provide seed for Rocky Mountain bee plant (*Cleome serrulata*) for a common garden study for this species.



Assisted Troy Wood Research Geneticist with green tissue sampling of four selected species toward his genetic research on these species during the course of making seed collections for SOS.

This included data collection for 2 forbs and 2 grasses utilizing project protocol, photos, herbarium samples and GPS data on locations. A total of 7 collections were made.

Ipomopsis aggregata above.

Heliomeris multiflora on right.



Two grass species we collected samples of for Troy's genetic research.



Bouteloua gracilis above.

Sporobolus cryptandrus left.

EDUCATION AND OUTREACH

- Provided field classes in general botany, the Seeds of Success Program, plant taxonomy and ethnobotanical uses of local native plants to four classes of Farmington Middle School Students, spring of 2011.



Anthony Wenkea (CBG intern not shown), Arnold Clifford Navajo Ethnobotanist (right forefront), and Sheila Williams BLM Botanist (right rear) with botany education station with middle school students.



Anthony Wenkea, CBG intern doing his section for the botany education station.

Challenges-Successes of 2011 Collecting Season

- Moderate snow and minimal spring moisture characterized the beginning of the 2011 collecting season.
- Spring flowers were much reduced. Monsoons did not really appear for the Four Corners area and much of N.M.
- Interns from CBG very self-motivated and professional.
- Interns were also innovative and developed a technique to collect seed from a difficult species.
- We moved to higher elevations in New Mexico and Colorado and were able to make a few more collections thanks to folks with the National Forests in the area.

WHERE NEXT?

- ◉ Refinement of priority species-provisional seed zones for plant material development from the southern portion of Colorado Plateau
- ◉ Continue to coordinate with other SOS collectors on the COPL
- ◉ Make multiple collections across priority species ranges across the Colorado Plateau
- ◉ Common garden studies?
- ◉ Continue to develop contacts at regional level-tribes, UT, CO, AZ BLM/other agency folks, parks, etc

PARTNERS AND THANKS!

- ◉ USDA Los Lunas Plant Materials Center (LLPMC)
- ◉ USDA Forest Service: San Juan National Forest (thanks Cara!) and the Jicarilla District of the Carson National Forest gave permission to collect seed on their lands
- ◉ Continued collaboration with the Colorado Plateau Native Plant Program Tech. Committee and Troy Wood
- ◉ Thanks to:
 - PCP-BLM-Peggy O and folks
 - Wayne and co.-Colorado Plateau Native Plant Initiative!
 - SOS and CBG Folks
 - Support from FFO staff and managers
 - Mentoring and guidance from Mike Howard, NM PCP Lead



Questions?

Many thanks to Esther Willetto for her continued support and friendship.